

TEXTILE BULLETIN

VOL. 45

DECEMBER 7, 1933

No. 14

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Our Monetary System

The monetary policy of the Administration has been one of the most widely discussed questions in recent years. It has brought forth many conflicting opinions from well known economists and has unquestionably had a marked effect on the course of business in recent weeks.

The question is so highly involved and hard to understand that it has been difficult for many of us to "know what it is all about." Senator J. W. Bailey, of North Carolina, recently gave a statement to the Greensboro News in which he covered many points in our monetary system that are interesting and timely. It is published herewith with the thought that many manufacturers have been confused over the question may find it worthwhile reading.—Editor.

What is the present state of the currency of the United States? What is in contemplation of the President's monetary policy? What is the character of that policy? It is my purpose to submit some observations with the view to throwing such light as I may upon these questions.

Let us understand:

1. That gold is generally considered as money, but at present it is a commodity in all nations save three—France, Holland and Switzerland.

2. That, nevertheless, the currencies of all nations are valued in terms of their respective gold buying power; not because governments demand this, but because merchants dealing in international exchange of goods, will have no other measure of value save grains and ounces of gold.

3. That the present United States effort is to lift prices by decreasing the dollar value in gold; at the same time to lift wages and increase employment; at the same time to correct the disparity existing between prices paid by farmers and prices received by farmers—that is, to lift farm prices and wages, and to increase employment—without lifting prices of manufactured goods bought by farmers. For the President seeks not only to increase prices but to correct disparities.

In this matter the government contends not with the gold standard of law, but with the habit of the human race to prize gold, and especially to prize it in times of distress, and not only with measures of value here but in the world market. Moreover, it must solve the problem of increasing wages of labor, increasing the national debt, and increasing the number of workers, without increasing the price to the farmer consumer—a manifestly difficult undertaking, which threatens vast revisions of corporate capital structures.

Let us further understand that at present our United States dollar has three values, whereas in order to restore commerce, industry and the circulation of money, we must fix and hold one value for the dollar—which is what is meant by stabilization.

What are the three values of the United States dollar? They are:

1. Its value in gold-purchasing power, which is 60 to 66 cents. This is its value in the world market, in which prices of cotton and tobacco are determined. This accounts for the recent rises in the prices of cotton and tobacco.

2. Its value in the buying power of domestic commodities, which varies as between agricultural commodities and manufactured goods:

a—Its value in respect to buying of manufactured goods, being 130 cents as compared with 100 cents in 1926.

b—Its value in respect to buying power of agricultural commodities, which is about 65 cents as compared with 100 cents in 1926.

3. Its value in debt-paying power relative to 1926-28, which is about 60 cents.

These are the general factors with which the President must deal in his high purpose of fixing the United States dollar value, increasing wages, employment and the value of commodities, extinguishing the disparity between prices paid by farmers and prices received by farmers, and putting debtors on the base upon which their debts were made.

These conditions present at once the impression both of the difficulties and the greatness of the task. It involves the entire economic field, and requires vast and far-reaching adjustments: Its real objective is perfection! The President hopes to approximate this perfection rather than absolutely to attain it. He is dealing with a bad state of disequilibrium brought on by deep-set causes and acute maladjustments. His goal is equilibrium in a world as badly out of balance as is the air in the midst of a hurricane.

Now to proceed with some definitions of terms in current use on this subject: Inflation; reflation, deflation; reflationary.

1. Inflation, in effect, means with reference to currency (i e., national money, not gold) reducing the value of the dollar. This, as a rule, would mean higher prices, higher wages; but not necessarily, because the trading public in the United States may refuse to attach to the dollar its lower value. It is inclined under present conditions to attach to it an abnormally high value, just as in 1928 it attached to it an abnormally low value. As I have said, our dollar abnormal is worth about 60 cents in gold as compared with 100 cents March 1st; but over here it is not measured in gold but in general commodities, as it has two values, one of 130 cents in manufactured goods, the other 65 cents in farm commodities. Going off the gold standard reduced our dollar's value abroad, but to no great extent at home.

Moreover, in instances of great surpluses of a commod-

ity, or of labor, reducing the dollar value does not correspondingly increase wages or the value of the commodity. For this reason the President seeks to reduce crop production and to shorten hours of labor.

To reduce the dollar value in terms of the commodity gold, of which there is no surplus, puts gold up, but will it employ labor? Will it increase wages? Under ordinary circumstances it might, but will it do so when all save three nations are off the gold standard? Will it do so under existing conditions of surplus crops? It has already done so with respect to silver, but will it do so as to all commodities—agricultural and manufactured? Will it do so as to wages, salaries and rents? These are crucial questions in view of the facts and the President's avowed purpose. Manifestly he must attack at more points than one: Hence the NRA, the AAA, and the PWA.

Money, or currency, may be reduced to no value; and for this reason there are limits beyond which the President cannot go. If he goes far enough, prices may rise, but if they rise equally, there will remain the present disparity that ruins the farmers; and if they shall be ruined, none can escape. If he goes too far, we will have the German experience—which none desires. This the President will not allow. He must strike a balance in the European experience.

Great Britain reduced the gold value of her pound by 33 per cent.

France reduced the gold value of her franc by 80 per cent.

Germany's inflation was uncontrolled. She reduced the value of her mark to nothing—her purpose being to wipe out all debts and start all over again. She showed how to lift prices and also how to wreck all her people.

Great Britain's and France's inflation were controlled; but prices did not rise in any ratio comparable to the depreciation of their currencies. They rose very little. These inflations served Great Britain and France mainly in their foreign trade and at the expense of the United States so long as we were on the gold standard.

The President of the United States proposes to reduce the dollar value in gold by 50 per cent. Instead of having a dollar bill bring 23 grains of gold, he would have it bring about 12 grains. For several weeks it has been worth only 12 to 17 grains in London. If this should work, then where \$50 now buys a bale of cotton, it would buy only one-half a bale; and cotton would go to \$100 a bale. But, while the bale would pay \$100 in debts, it would purchase no more than the \$50 does, since if cotton went up, all commodities would also go up, and wages likewise. Nevertheless, it would pay \$100 in debts. But the effect should be to lift prices of American commodities in the world market without lifting prices in the domestic market. North Carolina would gain a great advantage, since she sells so much of her cotton and tobacco in the world's market.

In order that the artificial inflation may succeed, it must be just; that is, it must raise the wages of the worker and the employee. Justly applied, its principal effect would be to enable the debtor to pay his debts in the same amount of commodities as his borrowed money would have bought at the time of the loan. It would take from the value of interest on money, for the rate is fixed. It would take from the value of stocks, because it is not likely that dividends could be increased.

The moral justification for inflation having this effect is plain. No man is entitled to unearned increment in money. He is entitled to 6 per cent on money loaned, and no more. If he takes more from his debtors, that is usury, if not extortion in the biblican meaning of the word. He is entitled not to the gold value of the money

loaned, but to its actual commodity buying power value at the time of the loan, plus interest.

2. Reflation. The President would restore commodity values as of 1926—and parity as between the farmers and his merchants as of 1909-1913. We must bear in mind that the farm relief bill demands parity prices as of 1909-1913; but recently the President has declared for 1926 standards.

Reflation means, therefore, only such measures as will restore normal prices (the President says as of 1926; but the farm relief bill says 1909-1913); and a reasonable parity. The President may be said to be a reflationist rather than an inflationist. He means to get our currency prices and debts back to 1926 standards (or to 1909-1913, according to the farm bill) with a general parity—that is, equality as between farmers and merchants, and workers and industry generally. This is admittedly an economic problem of the first magnitude. The NRA and the AAA are aimed at this objective. It remains to be seen whether they will succeed. The President declares them to be experimental and promises, if they fail, to try something else. The test will come next fall, not before. The winter of 1934-35 will tell the tale.

It should be observed that the President has stated that his policy of putting up the price of gold as a policy, indicating that it is not temporary and not an emergency measure. This tends to indicate that he is not going to indicate that he is not going to yield to demands for fiat printing-press money or for free silver coinage, so long as he can borrow money at the banks to carry on his program. The significance of his statement has been overlooked. It indicates that the President wishes to put an end to speculation as to whether he will exercise the broad powers of the Thomas amendment by adopting a policy which repudiates printing-press currency and free and unlimited coinage of silver. He has practically repudiated every power of the Thomas amendment save the power to reduce the gold value of the dollar and the power to replenish bank credit by the purchase of government issues by the Federal Reserve Bank. The greenback idea and the free silver idea have been cast aside. The accepted process is the 50 per cent devaluation of the dollar in gold-purchasing power.

3. Deflation. This is the word by which we describe what has occurred in this depression. The value of the dollar rose rapidly to a great premium. The amount of money available for circulation was not decreased—as many think. The trouble was that the amount of credit, the turn-over of bank deposits, was decreased to a shocking extent; and then the circulation of money was paralyzed by the blocking of business, the failure of banks and general panic. This process was automatic. Business ceased to borrow, banks ceased to lend, and depositors withdrew their funds, that is their credit. Depositors who withdraw their funds from banks cannot blame banks for not lending, for they had to press their debtors in order to pay depositors. Much needless damage was done by panic.

It makes little difference how much money is "in circulation" if it does not circulate. A dead man has all the blood he ever had; but his blood does not circulate. More blood would not help. The government can make more money available for circulation, but it cannot keep it in circulation. The only thing that circulates money is prosperity—i.e., profit-making enterprise. The real circulation is not money but checks—i.e., credits. The real problem in our land is to get enterprises, farms, banks, stores, newspapers and industries on a profit-making basis. This would circulate money, expand credit, increase

the turnover of deposits by checks, employ the worker and establish confidence. And I know of nothing else that will.

Our current measures are temporary—to meet panic conditions; that is, all save the measures to reduce public expenditures and, therefore, the tax burden, and the new policy of diminishing the gold value of the American dollar. Once we get out of the paralysis of panic we may proceed to other measures calculated to make for profitable enterprise—that is, the other word for prosperity. The deflation of credit, from which we have suffered, would be cured by profitable enterprise. This would be normal, organic reflation, and the restoration of currency circulation, as compared with the President's mechanical or artificial reflation. He regards the latter as a permanent policy, because it may become permanent, if it shall appear that the economic (or psychological) value of gold is permanently abnormal as compared with its value in 1923-1926.

It is my view that the United States and Great Britain will at length return to the gold standard, but on a new basis—the dollar buying, say, only 12 to 16 grains instead of 23; and the pound buying less gold in the same production. France has already done even more; she reduced the gold value of her franc from 19 cents to four cents. We will hardly go that far. But I do think gold has attained an abnormal economic value. The President's policy is based on this view.

We went off the gold standard because we had to. It was the only way to arrest deflation—that is, the processes increasing the value of the dollar and decreasing the value of wages and commodities. Our commodity prices and wages were measured in gold at par, while the commodity prices and wages of the other nations were measured in their currencies at a discount. So they undersold us in the world market. Japan could sell her silk in the American market for dollars payable in gold; she could take the gold and buy pounds in London at a discount, and trade at a better profit everywhere than here. If she traded here she would have to pay in gold. So with other nations. For the first time in decades the balance of trade threatened to go against us.

4. Inflationary. Many operations are inflationary, but they do not mean inflation in the current sense, and while they operate in more normal times, they have failed us in this depression. Government loans for public works are inflationary. Government advancements for frozen credits are inflationary. Purchase of government bonds by the Federal Reserve banks is inflationary. Issuing currency on government bonds is inflationary. Reducing the discount rate of the Federal Reserve System is inflationary. But none of these has produced inflation—or reflection—in the current acceptance of the words. They are intended to relax, adjust or expand credit and to stimulate industry. This sort of inflationary operations may, ordinarily, be carried very far—as witness the great credit inflation of the war period and the greater credit inflation of 1928-1929. These were inflations not of the currency but of credit. Bank checks took the place of currency under the influence of business activity, excessive optimism and speculation, and Federal Reserve Bank operations. There was tremendous circulation of checks—not of money. The collapse of this inflation brought on the depression. But for this inflation we would have had a recession of business and some trouble, say, in 1927, but nothing to compare with 1929 and existing conditions.

It would have been much better to correct the inflation by means of such inflationary measures than by actual inflation or mechanical operations upon the gold value of

the dollar. But, it could not be done. The preceding administration tried it. The depression struck too hard and too deep. Necessary measures were not taken in time. The preceding administration depended on mere inflationary measures, adopted a year too late. The present President sought first to depend upon such measures, enlarged and expanded, but since the progress made has not been all he hoped for, he is now attempting artificial reflation, that is, to decrease the gold value of the dollar in the hope that as the commodity, gold, becomes dearer in dollars, so will the other commodities, and likewise, of course, wages. If his mechanical plan succeeds, then it is safe to say he will seek to stabilize the new values—either upon a new, fixed weight of gold, or a weight varying with the variations in prices of commodities and wages—this latter being extremely difficult, if not actually impossible.

It must be conceded that the main effect in the long run would be to reduce debts and interest. But, since debts and interest are principal obstacles to recovery, and cannot be otherwise reduced, the process deserves encouragement—not only from debtors, but from all who desire recovery. The normal debt of our people, all told, is about 75 million dollars. At the time of the collapse (October, 1929) this debt was about 190 million. It has since been reduced, or wiped out by bankruptcies, to about 125 billion. A currency adjustment that would reduce this debt automatically, that is, in terms of commodities and wages, to 90 billion dollars, would tend to remove the debt obstacle to recovery. The debts of the foreign nations to the United States (about 11 billion dollars) has already been reduced by 40 per cent, that is, \$4,400,000,000 by the depreciation of our dollar. Consider the effect if this had happened to our domestic debts.

As I see it, we are moving rapidly to the final steps in the government's struggle with the depression. The first step, a balance between ordinary government receipts and ordinary government expenditure, is at hand; the second step, restoration of confidence in the banks is on the way handsomely; the third step, the restoration of public morale and the adjustment of millions to their new circumstance, is in excellent process. Fourth, we are now attempting to lift prices and wages, and are meeting with considerable success; fifth, we have yet to discover the means of extinguishing the adverse disparity of the farmers' values, but we are hopeful that crop reduction next year will aid greatly here; sixth, the automatic reduction of debts by reducing the dollar value has been set on foot in the soundest way available; seventh, we are moving toward stabilization of values, that is, of the currency and commodities; eighth, all the while I hope we are seeking the opportunity to restore and establish the profitability of enterprise and a sound demand for credit; ninth, it is recognized that with all these achieved, we would have yet the problem of unemployment, but by no means in its present acute and vast form. That will be solved when agriculture shall have been made more profitable, and international trade has revived; tenth, we would preserve the government's credit at all hazards throughout all the process of recovery.

In this program there is no place for hysterical agitation, counsels of despair, political nostrums or demagogic criticisms or promises. They each do infinite harm; and we have far more to fear from them than from any other. In no event are we in for "revolution, chaos," etc., etc. Every such suggestion makes matters more difficult and postpones the hour of recovery. We are undergoing an unprecedented national experience. It is our task to en-

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Master Mechanics' Department

BY W. F. SCHAPHORST, M.E.

IMPROVING V-BELT DRIVES

On numerous occasions you have very likely seen V-belt textile mill drives improperly belted, as indicated by "wrong" in the accompanying sketch, Fig. 1. That is, when the sheave is only partially belted with only two or three ropes, the ropes are placed at the "end" of the

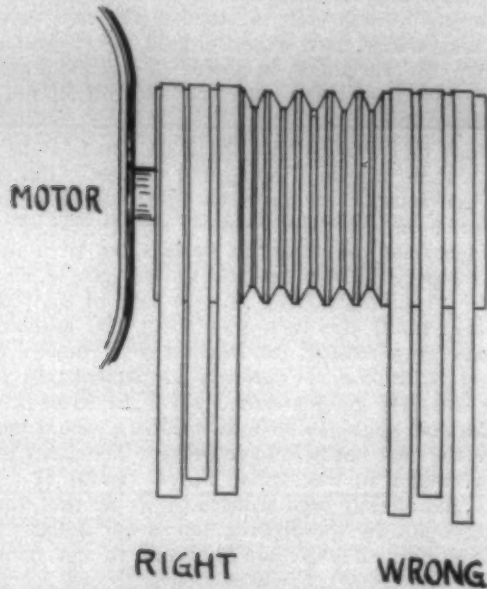


Fig. 1

sheave, as far away from the motor bearing as possible. The explanation for placing in that position is: it is the easiest place to put the ropes.

Of course it shouldn't be done in that way. The correct way is to place the ropes as close to the motor as possible as indicated by "right" in the sketch. By so doing there will be less bearing pressure owing to the smaller leverage of the ropes through the shorter distance. In any belt drive, the greater the distance of the "center of belt pull" from the center of the bearing, the greater will be the pressure of the shaft against the bearing, and, consequently, the greater will be the friction and loss of efficiency.

This also makes clear one of the reasons why double-ply belts are preferable to single-ply: the center of pull of a double-ply belt is closer to the center of the bearing.

A RULE FOR CROSSED BELT DRIVES

Here is a new rule for crossed belt drives as shown in Fig. 2, which I consider superior to the old ones which do not take all factors into consideration. This rule applies to high grade, 2-ply leather belting:

Rule: Add the diameter of the pulleys in inches, multiply by two, and then multiply by the cube root of the width of the belt in inches. The result is the minimum distance between shaft centers in inches.

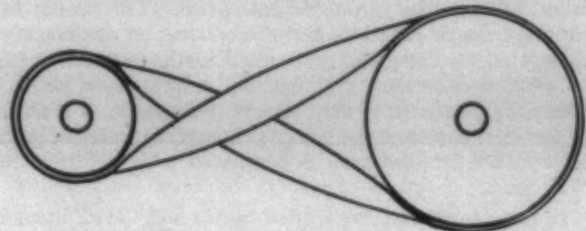
This rule is limited to 8-inch belts and pulleys up to 40 inches in diameter. A center distance of 25 ft. will take care of an ordinary combination within these limits, hence 25 ft. need not be exceeded.

Example: Diameter of driving pulley, 12 in.; diameter of follower pulley, 10 inches; width of belt, 3 inches. What is the minimum distance between pulley centers?

The answer, applying the above rule, is 64 inches.

Example No. 2: Diameter of driving pulley, 40 in.; diameter of follower pulley, 40 in.; width of belt, 8 inches. What is the minimum distance between pulley centers?

Answer: Applying the above rule we get an amount greater than the safe distance 25 ft. mentioned above.



CENTERS TOO CLOSE TOGETHER

Fig. 2

The center distance may be made greater than 25 ft. if desired, but it should not be less.

For single-ply belts that are well made, use the same rule as above. Single-ply belts are more erratic on crossed drives than are two-ply owing to the uneven stretch that so commonly occurs. Always use two-ply high grade belts on drives of this type wherever practicable.

Sometimes you see shafts of crossed belt drives as close together as two times the sum of the two pulley diameters. For belts one inch wide that distance is all right, but for belts wider than one inch it is close. The twist is then too abrupt and there will be considerable rubbing and wear at the crossing point.

CORRECT VOLUME OF BOILER FURNACE

In connection with the rapidly increasing use of pulverized coal, a question that must be answered frequently

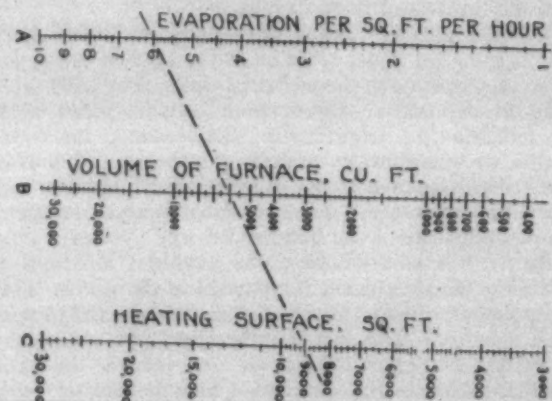


Fig. 4

today is this: "What shall be the volume of my combustion chamber for the burning of pulverized coal?"

Herewith is a chart, Fig. 4, which answers that question. Simply run a straight line from the correct evaporation figure, column A, to the number of square feet of heating surface in the boiler, column C, and you immediately have the volume of the combustion chamber or furnace in cubic feet in column B.

For example, the dotted line drawn across the chart shows that if the evaporation per square foot of heating surface is 6 pounds per hour and if there are 9,000 square

feet of heating surface in the boiler the volume of the combustion chamber must be 6,000 cu. ft. The chart is based on a boiler efficiency of 80 per cent.

The chart will handle any boiler of any size. Thus if the heating surface were 90,000 sq. ft. instead of 9,000 the same dotted line across the chart tells us that the volume of the furnace must be 60,000 cu. ft. instead of 6,000. In other words, if it is necessary to add a cipher in column C, simply add a cipher in column B. Or, if it is necessary to add a cipher or digit in column likewise add a cipher or digit in column B.

DRIVING CONVEYOR BELT IDLERS BY MOTORS

It may interest some master mechanics to know that in the United States electric power transmission systems are already in use which are so perfectly synchronized that any number of motors may be used along a conveyor belt, without any mechanical connection whatever, and the motors can be depended upon to be in exact step at all times. That is, one motor will not be dragging while the other is pulling. The effect is the same as though the machine parts were actually geared together. The advantage is that there are no gears, no gear noises, no connecting shafting or chains—neater and less clumsy in appearance. All of the motors pull simultaneously, provided there is any pulling to be done and provided the motors are not overloaded.

Thus in one instance we have three motors each driving its own section of a given conveying system. The speeds of these motors are so accurately controlled by means of the electrical hook-up that exactly the same results are produced as though the various parts of the system were interconnected by positive mechanical drive.

In another instance—a large paper winder—the paper leaving one section of the machine and entering the other section must have a definite tension. The tension is continually maintained by an electrical hookup with synchronized motors in each section.

However, as I believe I have mentioned before in *Textile Bulletin*, I wish to restate that “an idler pulley cannot drive and still be an idler pulley.” I suggest a more suitable name for such a pulley as—“Auxiliary Drive Pulley.” Just why writers persist in applying the term “idler” to wrapper pulleys, and to “helper pulleys,” as above, is beyond my comprehension. An idler is a pulley that simply idles and that does nothing else. I believe most master mechanics will agree with me.

FORCED DRAFT VS. INDUCED DRAFT

Many master mechanics, not to mention owners and managers of large plants, are not conversant with the advantages of forced draft over induced draft. It is commonly thought that one is “about as good as the other,” but that is not the case. The writer has delved into the subject and is inclined to place himself on the side of forced draft. I shall endeavor, in a brief manner, to give the principal reasons why I favor forced draft.

An ordinary chimney “works” because the column of hot gases inside the chimney is lighter than a similar column outside of the chimney. An unbalanced force is therefore set up and in an attempt to balance things in a natural way the outside air rushes into the base of the chimney forcing the hot gases upward and out, but some engineer conceived the idea of making the rushing air pass through a fuel bed to support combustion and thus the supplanting air itself becomes hot and is pushed up by more cool outside fresh air. And so the operation continues automatically as long as there is a higher temperature in the fuel bed than in the outside air.

Induced draft does *not* imitate the chimney method. Those writers who say it does are mistaken. Induced draft creates a partial vacuum over the fire. It is a

“suction method.” Its best feature lies in the fact that it does not force flame or gases out of the boiler at any point. But even that “favorable feature” is chalked up as an argument against it because if the boiler setting is leaky surplus air will be drawn into the gases which will necessarily be heated. The heat absorbed by this surplus gas will therefore have to go up the chimney as pure waste. Besides, with induced draft, there is no way in which to determine in a simple way whether or not the fire is getting too much air.

Again, the fan handling these hot gases will have to be large enough to take care of the increase in volume due to the increased temperature of the gases. When outside air is increased in temperature by 500 degrees F. it doubles in volume. Hence the fan has the “harder and bigger job” of handling the air after it is heated. More power is required to drive an induced draft fan.

Already, no doubt, the reader who has never before given this matter thought sees the advantage of forced draft. The forced draft turbo or other blower is so placed as to create air pressure in the ash pit beneath the grates. Nothing but cool outside air is handled by this blower. It is best to regulate this pressure in such a way that there will be no pressure on top of the fuel bed, for if there is greater pressure than atmospheric on the fuel bed flames will shoot out of the firing doors every time the fireman opens them to feed the furnace. Hence the desirability of using a chimney in conjunction with a forced draft blower. The chimney need be only high enough and large enough in diameter to create a trifling suction over the fuel bed. The greatest pressure difference to be overcome is through the fuel bed and that pressure difference or “draft” is cared for by the blower.

As stated above, less power is required to drive the forced draft fan in handling a given weight of air or gas, but the forced draft system has the further advantage in that its turbine and fan are always in a current of cool air. Consequently they will naturally be longer lived. This applies particularly to the bearings, for it is much easier to keep cool bearings in economical running condition than to bother constantly with bearings in hot surroundings which must be water cooled in order to keep them running at all. Thus the lubrication problems attending the induced draft system are more complex than those attached to forced draft.

Obviously this is a rather involved problem to handle in a short article. It cannot always be stated definitely whether or not a given chimney should be removed and supplanted by forced draft or whether the forced draft fan should be used in conjunction with the chimney. Nevertheless, if additional power is contemplated it is unlikely that the chimney will ever have to be enlarged provided a chimney already exists. The forced draft turbo blower will usually take care of the matter nicely.

In certain instances it has been the policy for engineers to keep two or three boilers going with one in reserve. The latter reserve boiler would have its fires banked and the water in the boiler would be kept hot by use of live steam so that as soon as a peak load came along it would be a simple and quick matter to cut the extra boiler into the main steam line. Naturally, such practice is wasteful because of the extra coal required to bank the fires, because of the live steam required to keep the water hot, and what is more, because of the extra boiler which would have been unnecessary had the other boilers been equipped with blowers.

Steel, at the present time at least, is an expensive article. One excellent way in which to save steel is to install fewer boilers. Or, if it is thought that another boiler

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The Principles of Industrial Lighting

And

Their Application to the Cotton Textile Industry

BY E. L. ELLIOTT

Lighting Engineer.

THE increased cost of the labor factor in production emphasizes as never before the problem of reducing the other cost factors. Production costs fall under two heads: labor, and overhead. Labor cost depends upon two conditions: the efficiency of the workman, and the kind and condition of facilities provided for his use. The larger part of overhead is included in interest, taxes, insurance, upkeep and depreciation on the plant. There are thus three ways of reducing production costs: by increasing the efficiency of the operatives; by increasing the efficiency of the machinery; and by operating the plant more hours per day or week.

This brief recital of manufacturing economics is given to call attention to a fact not always duly considered; namely, that the possible means of reducing manufacturing costs involve the item of factory lighting as an essential factor; for the efficiency of the workman depends upon how well he can see to do his work, and the operation of the factory can be extended only by the use of electric light when daylight fails.

Lighting began to be studied as an engineering problem over thirty years ago, and a voluminous literature on the subject has accumulated; but the attempts to abstract and codify this mass of data in the form of text books have not quite met the needs of the shop engineer and factory executive, who is less interested in theory than in definite rules of practice. The theory of light and its distribution offers an enticing field for the exercise of mathematical talent, the results of which turn out to be of little practical use. After the development of many impressive formulas and laws, the final solution of the actual lighting problem has often suggested a kindergarten game rather than the result of engineering practice. All of the older branches of engineering have a mathematical basis, because they deal only with physical quantities; but the attempt to reduce the practice of lighting to such a basis at once runs into difficulties. The results sought are not physical, but physiological and psychological, and can not be directly appraised by physical standards. It is a simple enough matter to calculate the size and location of lighting units to give a certain intensity of illumination on a theoretical horizontal plane; but that is no nearer the final solution of a given lighting problem than the calculation of the amount of power required to drive a certain collection of machines is a final layout for the electric wiring of a shop.

The success of any lighting installation can be judged only by the question forming the first five words of our National Anthem. The illuminating engineer and the oculist, for all their scientific devices, in the end come down to this one simple question: How do you see? And there is only one person that can answer that question, and that is the one who must do the seeing. Without wandering off into that favorite detour of the technical writer, "the elaboration of the obvious," it will be

necessary to go over in a general way the conditions upon which visual perception depends; for the production of these conditions in their most favorable form is the sole object of the lighting.

With respect to vision all objects may be divided into two classes; surfaces, and solids, or objects occupying space. A uniformly bright surface has no detail, and of itself no position in space, as in the case of the sky, or the disk of the sun. Details on a surface are seen as differences in brightness. The difference in brightness may be accentuated by difference in color, and in very rare cases due to difference in color alone. Difference in brightness is called *contrast*. The print you are reading is seen by reason of the contrast between the inked surface of the letters and the bare paper. The greater the contrast the more clearly the print can be seen, and the faster and easier it can be read.

With reference to the lighting, contrast depends upon three conditions; the relative reflectivity of the surfaces, the quality of the light, and the general intensity of the light falling upon them. Good print shows the maximum contrast producible under practical conditions; the reflectivity of good white paper is very high, and of black printing ink very low. But if the light falling upon the printed page is reduced the contrast becomes less apparent, and finally disappears entirely when the light becomes sufficiently dim. Contrast is also reduced by excessively bright light falling upon the surface, and by bright light falling upon the eyes from other directions. The relation of contrast to the quality of the light will be discussed later.

Surfaces are seen only by the light which they reflect diffusely, or irregularly. A perfectly reflecting surface would be invisible. Such surfaces do not occur in practice, although the best mirrors very nearly approach this condition. The lighting of highly polished surfaces, and the surfaces of transparent materials, constitute special problems.

Objects are seen as solids, or as occupying space, by contrast, and by perspective. The contrast in this case is due to shadow, and is commonly known as *light* and *shade*. Perspective is due to the optical action of the eye, which represents objects as smaller and nearer together the farther they are away, until they disappear at the center of vision. The relative position of objects in space is rendered more distinct by the result of the combination of the visual pictures formed by the two eyes, which constitutes the familiar stereoscopic effect. Color also assists in the perception of the position of objects in space in the case of distant vision. The only lighting problems giving any difficulty in industrial lighting are concerned with near vision, the perception of objects within reach of the hand. The perception of color apart from form also constitutes a special problem in lighting.

Except in the case of color vision, it is apparent

that visual perception is largely dependent upon contrast, and that in the case of solid objects, which constitute by far the larger part of vision, this contrast is due to shadow. At the last analysis, therefore, securing the illumination by which the objects to be seen will appear most clearly is, with few exceptions, a question of shadow rather than of brightness of light, within reasonable limits. Shadows from the lighting standpoint are of two different kinds: those that show the form and position of objects (light and shade) and those that fall upon objects in such a way as to obscure their visibility. The former may be called *formative shadows*, and the latter *obstructive shadows*.

Before proceeding to the practical application of these principles it will be well to consider briefly the action of the visual mechanism as affected by light. There are two kinds of electric light available for industrial use, which differ materially in their nature. These are the lights produced by the incandescent lamps, and by the mercury vapor lamp, familiarly known as the Cooper Hewitt lamp.

Incandescent light contains the whole spectrum, or "all the colors of the rainbow;" but the violet is very faint, the blue somewhat less faint, while the red and orange are relatively more abundant than in sunlight. Mercury light contains only five colors; yellow, yellow-green, green, blue and violet. Red and orange are entirely missing, while the blue and violet are in slight excess. These differences in the nature of the light result in marked differences in their effect upon vision. The most noticeable effect of mercury light is the change in the apparent colors of objects. The next most noticeable effect is that of increased contrast. Thus, in viewing ordinary print under this light the letters look blacker and the paper whiter than by incandescent light or daylight. One result of this increased contrast is to make the letters appear more sharply out; in fact, they seem to stand out from the paper, like steel plate print. This increased sharpness is due in part to the optical construction of the eye, the details of which need not be discussed here. In technical terms, mercury light increases visual acuity.

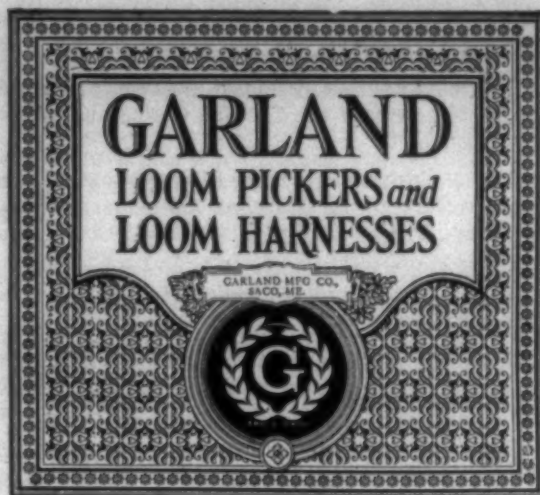
Another conspicuous property of mercury light is its entire freedom from glare. This quality was formerly attributed to the mild brightness of the luminous tube; but recent researches have shown that its glareless quality is a result of the spectral nature of the light. The full explanation is highly technical; but it can be given with sufficient accuracy in simple terms. It has been found that the action of light upon the retina of the eye has two effects, the one tending to exhaust its sensitivity, the other to stimulate the action by which it is resensitized. Yellow is the brightest light, that is, the most effective in producing vision, and is consequently the most exhausting to the retina. Blue and violet have little visual effect, but are the most powerful in restoring retinal sensitivity. In sunlight the colors are so proportioned that the eye is kept fully sensitized, and no fatigue, or glare is felt. In mercury light the blue and violet are ample to restore the exhaustion produced by the yellow; so that, as in the case of sunlight, the eye is not fatigued and no eyestrain is produced.

The retina is now known to be an electric battery which generates current when acted upon by light. The effect of the bright, yellow rays is to run the battery down, and of the blue and violet rays to recharge it. The exhausting effect of incandescent light, which contains an excess of yellow, may be observed by a simple experiment where both kinds of light are available, as follows: look at the incandescent lamp steadily for a minute, then turn aside and look at some small object, as fine print.

Repeat the experiment with mercury light. With the latter the print can be read as clearly as before looking at the light; while in the former it is blurred, often to the point of illegibility.

A combination of mercury and incandescent lights produces a light that is practically the full equivalent of daylight. The excess blue and violet in the mercury light compensate for their lack in the incandescent light, both in respect to color and freedom from glare; while the incandescent light supplies the red and orange lacking in

(Continued on Page 12)



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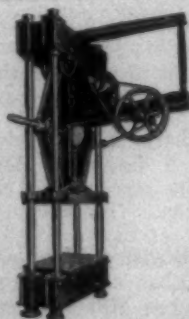
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PERSONAL NEWS

R. H. Tuttle has been promoted to assistant superintendent of the Karastan Rug Mill, Spray, N. C.

J. O. Newton has been promoted to general foreman in the two plants of the Carolina Cotton and Woolen Mills, Draper, N. C.

Ralph L. Ellis has been promoted to overseer of weaving at the Draper-American plant of Carolina Cotton and Woolen Mills, Draper, N. C.

Paul Fleming has been promoted to foreman of bleaching at the bleachery of the Carolina Cotton and Woolen Mills, Spray, N. C.

E. G. Reynolds now has charge of the gray goods room at the bleachery of the Carolina Cotton and Woolen Mills, Spray, N. C.

L. J. Baker has been promoted from overseer carding and spinning to assistant superintendent of the Spray Woolen Mills, Spray, N. C.

J. W. Roach has been promoted from second hand to overseer carding and spinning at the Spray Woolen Mills, Spray, N. C.

E. O. Hunter, who has been secretary of Aragon-Baldwin Mills, Chester, S. C., has joined the Springs Cotton Mills, and will be located at Lancaster.

J. C. Eddings has been promoted from night section hand to day second hand at the Langley Mills, Langley, S. C.

C. D. Kent has been promoted from loom fixer to night overseer weaving, Cotton Mill Products Company, Mobile, Ala.

J. W. Barfoot, of West Boylston Manufacturing Company, Montgomery, Ala., is now with Cotton Mill Products Company, Mobile, Ala.

F. T. Wilhite has resigned his position as master mechanic of the Sibley Manufacturing Company, Augusta, Ga.

Luther McGinty, formerly in charge of the dyeing department of the Wiscassett Mills, Albemarle, N. C., now has a position with the American Bamberg Corporation, Elizabethton, Tenn.

G. D. Truslow, who has been superintendent of the Carolina Cotton and Woolen Mills, Draper, N. C., has been promoted to general superintendent of these mills and the Spray Woolen and Rhode Island Mills, at Spray.

J. S. Bondurant, who has been with the Nantucket plant of the Carolina Cotton and Woolen Mills, Spray, N. C., has been promoted to overseer weaving at the Rhode Island plant, which is to be started up again.

Mr. and Mrs. Falls Thomason, of Charlotte, are receiving congratulations on the birth of a daughter. Mr. Thomason is a member of the Southern sales staff of N. Y. & N. J. Lubricant Co.

W. C. Frazier, formerly of West Boylston Manufacturing Company, Montgomery, Ala., has accepted the position as overseer of weaving at Cotton Mill Products Company, Mobile, Ala.

W. H. Shumate has been promoted to overseer weaving at the Lily Silk Mill, Spray, N. C.

S. T. Anderson has been promoted to assistant superintendent at the Draper American and Wearwell Sheetings Mills at Spray, N. C.

W. T. Cowart has been promoted to overseer spinning at Cotton Mill Products Company, Mobile, Ala., succeeding J. G. Sanders, who a few weeks ago was promoted to superintendent.

A. S. Jarrett, superintendent of the Baldwin plant, Aragon-Baldwin Mills, Chester, S. C., which is now owned by the Springs Mills, will continue as superintendent.

Robert L. Cook, in charge of cotton buying for Aragon-Baldwin Mills at Chester, now owned by the Springs Mills, will continue his duties with the Aragon-Baldwin Company.

John Klinck, who has been superintendent of the Sibley and Enterprise Mills, Augusta, Ga., is now associated with Belton C. Plowden, sales representative of Griffin, Ga. Mr. Klinck will devote his time to the Hygrolit system of yarn conditioning.

J. W. Price, who has been night overseer at the Nantucket plant of Carolina Cotton and Woolen Mills, Spray, N. C., has been made assistant superintendent of the Rhode Island plant, which is to be reopened after being idle since 1930.

W. P. Barton, who has been with the Nantucket plant of Carolina Cotton and Woolen Mills, Spray, N. C., has been promoted to overseer carding and spinning at the Rhode Island plant, which is being started up after being idle for three years.

H. S. Adams, formerly secretary and treasurer of the Springs Cotton Mills, Chester, S. C., but more recently assistant treasurer of the Aragon-Baldwin Mills, is again associated with the Springs interests, which have just taken over the Baldwin plant of Aragon-Baldwin Mills, Chester, and will have headquarters there.

R. L. Huckeba, Jr., has been promoted from assistant master mechanic to general master mechanic of the Sibley Manufacturing Company, Augusta, Ga. Mr. Huckeba has held the position as assistant master mechanic at the Sibley for some time, coming from a unit of the Alabama Mills Company, where he was master mechanic.

J. W. Proctor, formerly associated with Wellington-Sears Company, of New York City, has been appointed an executive assistant on the Cotton-Textile Institute's staff. It is understood that Mr. Proctor will provide additional assistance to Mr. Sloan, president of the Institute, in dealing with group problems and with certain aspects of the processing tax and code administration. Mr. Proctor's appointment involves no changes in the existing staff of the Institute.

Carolina Specialty Co. To Sell Morrison Machinery

Carolina Specialty Company, of Charlotte, has been appointed Southern sales agents for the Morrison Machine Company, of Paterson, N. J., manufacturers of dyeing, bleaching, finishing and sanforizing machinery. This company will continue to represent the Sipp-Eastwood Company, Chas. B. Johnson, Hermas Machine Company, and Morton Machine Works.

Coit Robinson Loses Hand

Coit Robinson, well known mill man of Lowell, N. C., suffered the loss of a hand and other injuries in an automobile accident near Buford, Ga., last Saturday morning. With a party of friends he was en route to the Duke-Georgia Tech game at Atlanta, when his car overturned on a sharp curve.

Northern N. C.-Virginia Meeting

A large number of mill men are expected to attend the meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association, at Greensboro, N. C., on Saturday morning. The meeting will be held at the King Cotton Hotel and will start at 10 o'clock. The program, as previously published, is one of unusual interest.

Licensed to Make V-Belt Drives

The Allis-Chalmers Manufacturing Company's office, 118 Johnston Building, has received notice of an announcement that licenses under United States Letters Patent No. 1,662,511, relating to power transmitting mechanism, commonly known as multiple V-belt drive, have been granted to the following belt and sheave manufacturers:

The American Pulley Co., Philadelphia, Pa.; The Dayton Rubber Manufacturing Co., Dayton, Ohio; R. & J. Dick Co., Inc., Passaic, N. J.; Dodge Manufacturing Corp., Mishawaka, Ind.; L. H. Gilmer Co., Tacony, Philadelphia, Pa.; Golden's Foundry & Machine Co., Columbus, Ga.; The B. F. Goodrich Rubber Co., Akron, Ohio; The Goodyear Tire & Rubber Co., Inc., Akron, Ohio; W. A. Jones Foundry & Machine Co., Chicago, Ill.; The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc., Passaic, N. J.; The Medart Co., St. Louis, Mo.; The Ohio Valley Pulley Works, Maysville, Ky.; Pyott Foundry & Machine Co., Chicago, Ill.; Rockwood Manufacturing Co., Indianapolis, Ind.; T. B. Wood's Sons Co., Chambersburg, Pa.; Worthington Pump & Machinery Corp., Harrison, N. J.; Gates Rubber Co., Denver, Colo.

Mills Must Curtail 25% in December

All mills now operating under the cotton-textile code must curtail by 25 per cent during December, this action being effective by reason of a resolution passed by the Cotton-Textile Industry Committee and signed by General Hugh Johnson, of NRA. The resolution provides that mills operate during December "not more than 75 per cent of the hours otherwise permitted in the code."

It was made plain on Monday that the ruling applies to every productive machine. In other words, during the month of December no productive machine may be operated more than 60 hours per week.

The new rule, which is set up to correct an "emergency condition and to preserve an equitable share of present inadequate business," applies for December only. It does not in any way change the hours of operation permitted under the code, except for the one month. Many mills now running 80 hours per week will do so during this month, merely closing down one week. The text of the resolution, which, upon being signed by General Johnson, took on the full force and effect as any other provision of the code, follows:

"Resolved, that pursuant to the provisions of Section

VI of the Cotton Textile Code, it is recommended that to meet the emergency condition now prevailing in the industry, and to preserve an equitable share in the present inadequate business, and employment among concerns engaged in the industry, and the communities and employees dependent upon its activities, that during the month of December, 1933, productive machinery in the cotton textile industry shall not be operated for more than 75 per cent of the hours otherwise permitted by the Cotton Textile Code."

The ruling becomes binding upon all manufacturing establishments now operating under the code, including cotton goods manufacturers, rayon weavers, finishing establishments, mercerizers and thread manufacturers.

Combed Yarn Spinners Meet

Gastonia, N. C.—The Southern Combed Yarn Spinners' Association's directors met here Wednesday in a three-hour executive session. No statement was issued for publication. Charles A. Cannon, of Concord, N. C., president of the Cannon Mills Company; T. M. Marchant, of Greenville, S. C., president and treasurer of the Victor-Monaghan Company, and president of the American Cotton Manufacturers' Association, and T. H. McKinney, president of the Standard-Coosa-Thatcher Company, of Chattanooga, Tenn., met with the directors.

Celanese Declare Dividends

The board of directors of the Celanese Corporation of America declared a dividend of \$3.50 per share on the 7 per cent cumulative first participating preferred stock of the company. This is payable December 31st to stock of record on the books at the close of business on December 16th. Action on the declaration of accumulated dividends on said stock will be considered after the end of the year.

Directors of the company also declared a quarterly dividend of \$1.75 per share on the 7 per cent cumulative seniors prior preferred stock. This is payable January 1st to stock of record December 16th.

OBITUARY

L. C. COGGINS

Reidsville, N. C.—L. C. Coggins, superintendent of the Edna Mills Corporation, was fatally injured in an automobile accident near Elkin, N. C. No particulars were available at the time of going to press.

S. L. McCracken

Rockingham, N. C.—S. L. McCracken, for many years well known as a mill superintendent, died at his home here at the age of 55. He was formerly superintendent of Steele's Mills here and of the mills at Tarboro and had at various times been associated with other mill companies. He is survived by his widow, one son and three daughters.

J. J. MAHONEY

Chattanooga, Tenn.—John J. Mahoney, prominent manufacturer and philanthropist and one of the group that founded the Crystal Springs Bleachery at Chickamauga, Ga., and brought it to be one of the greatest industries of this region, died Monday night at the Erlanger Hospital from the effects of a cerebral hemorrhage, from which he suffered a week before.

The Principles of Industrial Lighting Their Application to the Cotton Textile Industry

(Continued from Page 9)

the mercury light. Practical means of producing this synthetic sunlight constitutes the greatest advance in electric lighting since the advent of the tungsten lamp.

Let us now return to the question of shadows, the basis of the larger part of all lighting problems. That shadow is necessary to show the solid form of bodies is easily demonstrated. Draw a circle; it bounds a plane surface. Throw a part of it in shadow; it becomes a sphere, as in Fig. 1. Light a sphere uniformly over its whole surface,

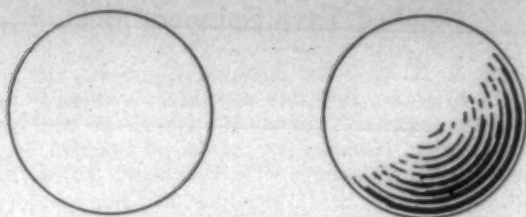


Fig. 1

and it appears as a disk, as shown by the full moon. Formative shadow has two properties; density, and position. Density is, in effect, contrast, and so varies with the intensity of the illumination. We see the moon as half-full because the shadow on one side is so dense that the surface is invisible. The position of shadow depends upon the position of the light source with reference to

the object. If the shadow of the object is directly back of the point of view the effect is to flatten the appearance of the body. The full moon is seen as a disk because the half in shadow is directly back of the surface we see; the sun is directly behind us as we look at it.

(To Be Continued Next Week)

Active Spindles in October

Washington, Nov. 22.—The cotton spinning industry was reported today by the Census Bureau to have operated during October at 101.9 per cent capacity, on a single shift basis, compared with 99.6 per cent during September this year and 97.0 per cent during October last year.

Spinning spindles in place October 31st totalled 30,869,848, of which 25,875,142 were active at some time during the month, compared with 30,827,726 and 26,002,148 for September this year and 31,489,918 and 24,587,732 for October last year.

Active spindle hours for October totalled 7,260,822,134, or an average of 235 hours per spindle in place, compared with 7,057,744,489 and 229 for September this year, and 7,045,544,610 and 224 for October last year.

Spinning spindles in place in cotton growing States October 31st totalled 19,126,798, of which 17,614,074 were active at some time during the month compared with 19,081,940 and 17,724,830 for September this year and 19,115,566 and 17,094,300 for October last year.

Active spindle hours in cotton growing States for October totalled 5,342,706,122, or an average of 279 hours per spindle in place, compared with 5,250,417 and 275

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for September this year, and 5,433,284,229 and 286 for October last year.

Active spindle hours and the average per spindle in place by States for October follow:

Alabama, 514,487,480 and 273; Georgia, 901,204,860 and 273; Mississippi, 51,784,924 and 239; North Carolina, 1,602,68,312 and 261; South Carolina, 1,835,168,605 and 320; Tennessee, 160,097,436 and 254; Texas, 62,822,418 and 231; Virginia, 165,643,955 and 255.

Compensating Tax on Jute and Paper

A compensatory processing tax on jute fabrics, jute yarns and articles of paper which are competitive with cotton has been ordered by the Agricultural Adjustment Administration, Secretary Wallace announced Saturday.

Imposition of these taxes, under the Agricultural Adjustment Act, to prevent excessive shifts in competition from cotton to the other jute and paper products for similar uses, resulted from two public hearings, one in July-August and the other in October.

In the light of the decision in the jute and paper cases, it is regarded as certain that a compensatory tax will be levied against rayon in the near future, with the fate of silk, wool and mohair, and linen, hanging in the balance.

After weeks of research by a staff under D. S. Murph, head of the cotton processing and marketing section of the A. A. A., including the two hearings, Secretary Wallace said.

"I do hereby find that the payment of the processing taxes upon cotton is causing and will cause the processors thereof disadvantages in competition from jute fabric and jute yarn by reason of excessive shifts in consumption between such commodities or products thereof," while a companion proclamation applied to paper.

The compensating rate of tax upon the processing of jute fabric, to present competitive disadvantages to cotton processors, was fixed at 2.9 cents per pound of jute on the first domestic processing of jute fabric into bags.

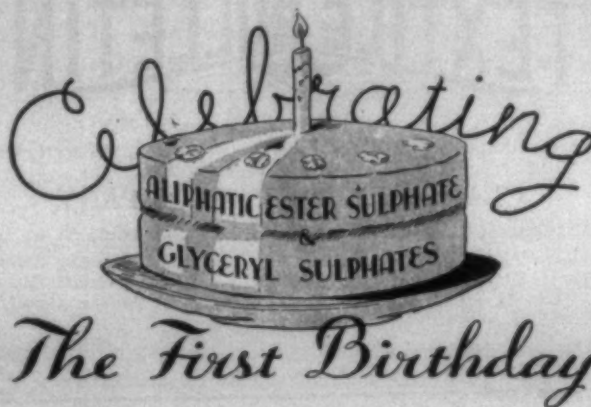
The compensating rate of tax upon jute yarn was fixed at 2.9 cents per pound of jute yarn on its first domestic processing into twine of a length of 275 feet per pound or over, finished weight of twine.

The compensating rate of tax on paper was fixed at 2.04 cents per pound weight of paper on its first domestic processing into multi-walled paper bags; 3.36 cents per pound weight of paper on the first domestic processing of coated paper into bags; 2.14 cents per pound weight of open-mesh paper fabric, on the first domestic processing of open-mesh paper fabric into open-mesh paper bags; 0.715 cents per pound weight of paper on its first domestic processing of paper into paper towels; and 4.06 cents per pound weight of paper on the first domestic processing of paper into gummed paper tape.

The conversion factors, which will be the effective tax rates, as the tax is according to use and not on all jute fabric, or jute yarn, or paper, will be awaited with interest next week. It is understood that no tax will be assessed against second-hand jute bags.

The processing tax on cotton, which became effective August 1st, is 4.2 cents per pound of lint cotton, with a conversion factor of 105.2, which means an effective tax of 4.418 cents per pound on cotton products.

LAURENS, S. C.—Nathaniel B. Dial, of Laurens and Washington, was re-elected president of the Laurens Cotton Mills at the recent annual stockholders' meeting here. M. L. Smith was re-elected general manager and treasurer and C. M. Burgess, assistant treasurer.



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Compulsory Curtailment

The order from NRA in Washington that all mills must curtail their production 25 per cent during December, seems to have been received with general satisfaction. There will naturally be some cases in which a hardship is worked where mills have deliveries to meet that will require their full production during December.

On last Saturday, the text of the ruling limiting production said that in December the mills could operate "not more than 75 per cent of the hours otherwise permitted by the code." This brought up the question as to whether a mill might average its 60 hours per week by operating parts of their mill the full 80 hours and reducing the operating time in other departments. On Monday it was definitely announced that the ruling that the curtailment applied to each productive machine in the mill. In other words, no productive machine can be operated more than 60 hours. This applies to December only.

Failure to comply with the order is a violation of the cotton textile code and violation would be handled exactly as any other violation.

The question of compulsory curtailment, amounting to government control of production, even if the control comes through the industry committee itself, has many angles. This first order comes as an "emergency measure" and applies to December only. The control, however, might easily be extended to other months if the occasion demands. In that event, it would be a difficult matter for the mills to figure operating costs in advance, due to the increase that is brought about by shorter hours. Several mill men have mentioned to us that any suggestion of controlled production should be brought about by group action rather than by an industry-wide measure. For instance, reduced pro-

duction of fine goods might be advisable in some month in which mills on coarse yarn cloths would be fully justified in operating at capacity.

We learned on Wednesday that any future action on curtailment will be handled by groups, which appears a better plan.

The first action in compulsory curtailment comes at a time when it will not be nearly so important if all the mills were operating at capacity. It also comes in a month when Christmas vacations usually are a factor in reducing production. We note, however, that the curtailment order is already having a cheerful effect on the market.

In recent weeks the markets for yarns and goods has been suffering because buyers lack confidence to cover. Their attitude is generally ascribed to lack of confidence over the monetary policy of the Administration. In our own opinion, it will not be much longer before a great deal of the anxiety over the gold buying policy will have subsided. We cannot believe that the country is going to be let in for an era of uncontrolled inflation which the most apprehensive now seem to fear.

In view of the slow state of textile trade for the past several weeks, the 25 per cent cut in production should prove a sensible idea.

Tax On Competing Fibres

Cotton manufacturers who have been fretting under the processing tax get some measure of comfort out of the similar tax that is now being levied on jute and paper. Bag manufacturers who have been losing some of their business to jute and paper bag and manufacturers of towels who found their competitive position more difficult under the processing tax on cotton, now feel easier.

It remains to be seen just how much the cotton mills will benefit from the compensating taxes. The tax on cotton, effective since August 1st, is 4.2 cents per pound. The tax on jute is now placed at 2.9 cents. On paper, it ranges from 2.04 cents on certain types of paper bags to 4.06 cents per pound where the product is to be gummed paper tape.

It seems a pity that while the AAA was about it, the jute tax was not set equally as high as that on cotton.

It is being generally assumed in the trade that a compensating tax on rayon and silk will be announced within a short time. There is yet another hearing on the question of taxing rayon, so there is nothing yet official in the belief that it, too, is to be taxed.

It is also expected that in the case of paper

and jute, a floor tax similar to that levied on cotton will apply.

From the Good Book we learn that the "way of the *transgressor* is hard." To this may be added that in these days and times, the way of the *processor* is not without its difficulties.

Interview With An American Farmer

"How's things on the farm, Cy?"

"Purty good, I guess; I won't know for certain 'til I hear from Washington."

"Hear from Washington?"

"Yep. They keep the books. I get a quarterly report on how I've been doing."

* * *

"How's crops, Cy?"

"Everything looks purty fair, although I wouldn't know very much about 'em."

"You wouldn't know much about 'em?"

"Nope. I don't bother with details no more. The Government's got a Brigadier General, a retired naval officer and a couple of professors here. They've taken all the responsibility off my shoulders."

* * *

"Got the old farm all paid for, Cy?"

"Shucks! I don't worry about the mortgage no more. Uncle Sam looks after that. I don't even know what the mortgage is. Some day when the Government men are around I'll ask 'em just for fun."

Student Faddism

Recent college developments in this country have been marked by disorders of a peculiarly reprehensible and contemptible kind.

For example, there was the riotous outbreak at Amherst, provoked by students of the Communist persuasion who, according to the Associated Press, varied their wretched demonstration by burning an American flag. The Herald has always advocated full liberty of political opinion even among college men. But liberty of opinion must not be stretched to cover desecration of the cherished symbols of our nationality. That is going many steps too far; and we have nothing but sympathy for the loyal students who descended on the desecrators and administered sound punishment to some of the offenders.

Another scene of disorder occurred at the College of the City of New York, when Norman Thomas, the Socialist leader, delivered an open-air address in which he defended the participants in a pacifist rally, and provoked a somewhat vio-

lent interference from a student body in his audience. Mr. Thomas is a man who has commanded a large measure of respect from thoughtful Americans, but he ought to draw a broader line between desirable peace propaganda and that species of so-called pacifism which is fairly identifiable with flagrant incivism.

The pacifist cult, as it has lately been paraded by certain types of college men, is utterly removed from every honest and earnest American movement for peace preservation and world disarmament.

Paradoxical as it may seem, these eccentric young men are no more or less than militant challengers in advance of the right or power of the government to enlist them, in national emergencies, for their country's protection. In their morbid minds there is no conception of the possibility of a wanton, unprovoked war waged by one or more foreign powers against the United States—a contingency, however remote or unthinkable it may be, which would call for the last sacrifice on the part of every patriotic American. It is the right and privilege of these so-called pacifists to agitate to their hearts' content for the cause of universal, secured peace; but when they boldly proclaim their unwillingness to be ranked among their country's defenders, even against armed invasion by foreign forces, they are self-stigmatized as enemies of the republic.—*Syracuse Herald*.

The Truth About Article Seven

Both critics of the NRA and over-active union organizers are making the claim that Article Seven of the National Recovery Act means that workers must join some labor union in order to carry out the purposes and policies of the recovery movement. Nothing could be wider of the truth.

Labor union organizers, who must earn their pay, have been, in many cases, trying to make workers believe that they must join a federated organization in order to get the benefits and assist in the success of the NRA—but workers who read and think know better.—*Tampa Tribune*.

No Need To Strike

"Labor does not need to strike under the Roosevelt plan," says Gen. Hugh Johnson. He might tell it to the marines. It doesn't seem to do much good to tell it to the labor unions.—*Brattleboro (Vt.) Reformër*.



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MILL NEWS ITEMS

CHATTANOOGA, TENN.—The Hamilton National Bank sued the Nick-a-Jack Hosiery Mills for \$14,300 on a 30-day promissory note, alleged to be past due and unpaid, in Chancery Court there. The note was executed on August 28th, the bank alleged. Judgment for the amount of the note plus \$900 for attorneys' fee was asked. Cantrell, Meacham & Moon represent the bank.

LAUREL HILL, N. C.—Raeford Mills Company, with principal office at Laurel Hill, has filed a certificate of incorporation in the office of Secretary of State Stacey W. Wade, at Raleigh, to manufacture cotton yarns and other cotton fabrics and textiles. Authorized capital stock \$100,000. The incorporators are Edwin Morgan, J. D. Phillips and E. H. Gibson, all of Laurinburg, N. C.

MORRILTON, ARK.—Shut down since 1928, operation of the Morrilton Cotton Mill Company plant was resumed this week by C. V. Hoke and Ben Lessenberry, Little Rock, who employed 30 people in the manufacture of twine and string. The plant, which was erected ten years ago at a cost of \$300,000, was leased by Hoke and Lessenberry.

WINSTON-SALEM, N. C.—P. H. Hanes Knitting Company is celebrating its 30th anniversary, by planning an ambitious advertising program. This advertising campaign provides for greater lineage and a greater number of sources. The publication list consists of 647 newspapers with a circulation of 23 millions, which are to convey 95 million Hanes advertising messages.

CHARLOTTE, N. C.—Hudson Silk Hosiery Company, previously unincorporated, has filed a certificate of incorporation in the office of the Secretary of State at Raleigh, to manufacture, buy, sell and generally deal in silk, cotton, wool and other textile materials. Authorized capital stock, \$1,500,000. Incorporators are F. Seifart, M. S. Pierson, Mary Pierson and Anna M. Seifart, all of Charlotte.

THOMSON, GA.—The Lullwater Cotton Mills, of Thomson, which has recently been taken over and revamped by C. L. Upchurch & Sons, of Athens, Ga., has just been incorporated under the name of the Mary Delia Manufacturing Company, Inc., as recently noted, with the following officers: C. L. Upchurch, president and treasurer, Athens, Ga.; C. B. Upchurch, assistant treasurer, Athens, Ga.; J. I. West, secretary, Thomson, Ga.; W. L. Phillips, vice-president and general manager, Thomson, Ga. The mill is now beginning operation.

SPARTANBURG, S. C.—Stockholders of Jackson Mills have been called to meet December 29th for the purpose of passing upon a resolution adopted by the board of directors increasing the capital stock of the corporation from 3,500 shares of \$100 par value to 15,000 shares of a par value of \$100.

At this meeting, according to a statement issued by the president, Alfred Moore, the stockholders will consider also a resolution to amend the charter of the corporation to change the principal place of business of the concern from Iva, S. C., to Wellford, S. C.

MILL NEWS ITEMS

BOWLING GREEN, S. C.—According to an announcement, the Bowling Green Spinning Company's mill office has been moved to the Ruby Mill in Gastonia, N. C.

GREENSBORO, N. C.—The Cone textile interests, operating the Proximity Manufacturing Company, White Oak and Proximity Mills, Proximity Print Works here, and the Granite Finishing Works of Haw River, N. C., and the Revolution Cotton Mills, have applied to the Greensboro water department for 3,000,000 gallons of raw water daily. This company, under contract with the city, is already using approximately 2,000,000 gallons daily and their business demands an additional million.

BIRMINGHAM, ALA.—Alabama Mills, Inc., the reorganization of the old Alabama Mills Company, Inc., has purchased the properties of the latter company which was bankrupt, and the new corporation began operating this week the ten cotton mills and properties in as many localities in the State.

Paul A. Redmond, receiver-trustee of the Alabama Mills Company, Inc., is president of the new corporation, with E. J. Heitzberg, Nashville, Tenn., vice-president, and W. E. Hendrick, secretary-treasurer. The mills give employment to 3,500 to 4,000 persons. No change in personnel is planned and operations will be continued as in the past.

Mills are located at Winfield, Greenville, Russellville, Haleyville, Jasper, Fayette, Dadeville, Wetumpka and Clanton. The new corporation paid \$1,350,000 for the property, payable in securities of the new concern. The sale has been approved by the referee in bankruptcy and reorganization plans are practically complete. The mills have considerable raw material under contract and future sales are well covered.

CHESTER, S. C.—This has been a busy week at the Baldwin office of the Aragon-Baldwin Cotton Mills here preparatory to transferring the Chester plant to the Springs Cotton Mills, as voted at the recent stockholders' meeting here.

Changes in the personnel incident to the transfer are:

E. O. Hunter, who has been secretary of the Aragon-Baldwin Cotton Mills for some years, will be associated with the springs interests, and will be transferred to the executive offices at Lancaster, S. C.

H. S. Adams, who has been assistant treasurer of the Chester plant, will stay on with the Springs Cotton Mills, and will remain here. Prior to joining the Stevens interests about two years ago, Mr. Adams had been connected with the Springs interests for more than 20 years.

Robert L. Crook, who has been manager of the cotton buying department of the Aragon-Baldwin Cotton Mills, will continue. Arthur S. Jarrett, superintendent of the plant, will also continue.

W. Kirkwood Stringfellow, who has been cost accountant for the Aragon-Baldwin Cotton Mills, has been transferred to Greenville, S. C.

Work is expected to start at once on revamping much of the equipment. The plant will be modernized in every particular, similar to the work completed at the Eureka plant of the Springs Cotton Mills now under way at the Springstein plant.

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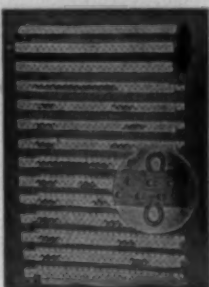
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Our Monetary System

(Continued from Page 5)

sure and surmount it; to overcome it and profit by its lessons.

We will come through soundly, for our people are equal to their task, its trials and discipline, and at the end of it, the American republic will be the Republic of the Constitution and the Fathers. There may come periods of despair, but cool heads will prevail. Progress may seem slow; but there must be patience. The task may seem impossible, but courage and labor will accomplish it. There may be many devices, many experiments, but it will become us to distinguish between the temporary, emergency measure, and the permanent, to try all things but to hold fast only to that which is good, and to keep in view the ultimate goal—a free republic of self-reliant men and women, true to the constitution and the national character developed these 180 years of glorious history. "All our past proclaims our future."

Master Mechanics' Department

(Continued from Page 7)

might be necessary in the plant it is quite possible that a blower will do just as well. In fact, a blower will probably be a "better" proposition than a new boiler.

How can a blower take the place of a boiler? By increasing the capacity of present boilers. Boiler ratings, in modern times, don't mean much. A boiler may be rated at 100 horsepower and in one plant the purchaser may religiously abstain from forcing the boiler one mite higher. Yet, in another plant, the owner may see an economy in forcing the boiler to 300 horsepower. Such things are done every day without evidence of harm to the boilers. In fact, it usually seems to pay to force boilers considerably above capacity.

Then comes the additional advantage of forced draft; by its use you can burn almost any kind of fuel. As one manufacturer expresses it, "you can almost burn dirt." And now, since much of the coal handed out to us is largely "dirt" it is almost a necessity that forced draft be adopted. Besides, there is no good reason why a high price should be paid for large lump coal simply because the lumps are so large that air can get through easily via chimney draft when that coal lies on the grate bars. Usually there is but little difference in the heat value of large lump coal and fine coal per ton. So, if the fine coal can be purchased at a much lower price why not buy it, buy a blower, save money, and get along "better" than the owner who insists on buying the "best" coal. Too many coal buyers are possessed of the idea that the "best" coal has the highest price attached to it, but that is far from the truth. The best coal is the coal that will turn out the work at the least cost. Just what the least cost is may not be an easy thing to compute because so many different factors are involved. Suffice it to say, though, that cheap coal has many times been proved to be the best.

The best way to install blowers is to allow one for each boiler. Don't attempt to put in a single blower and distribute air from it through ducts to each boiler. It can be done, true enough, but blowers don't cost much, and matters are simplified by installing one blower under each boiler. Then when that boiler is shut down the blower is shut down with it. Also, when operating, the speed of each blower can be regulated to provide sufficient air for immediate necessities. A large single blower for a number of boilers requires constant adjustment and vigilance.

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Cotton Consumption Breaks Record

New York.—World consumption of cotton in October was the largest for any corresponding month since 1929, totalling 2,128,000 bales, compared with 2,088,000 bales in September, 2,078,000 in October last year and 2,019,000 in October, 1931, the New York Cotton Exchange Service reported.

In the three months ended October 31st, spinners consumed more cotton than in any similar period since the 1929-30 season, 6,391,000 bales, com-

pared with 5,856,000 bales in the similar three months of 1932 and 5,788,000 bales two years ago.

Domestic consumption in October was 504,000 bales, against 502,000 last year, British spinners used 238,000 bales against 221,000, while continental mills spun 697,000 bales, against 720,000 last year. For the three months period, domestic consumption was 1,592,000 bales, compared with 1,399,000 bales a year ago, British consumption was 668,000 bales, compared with 515,000, and continental 2,096,000 compared with 1,827,000 bales last year.

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Odorless Disinfectant

When used in the floor rinsing water will protect your employees from FLU, common COLDS and other germ diseases?

It will as well as deodorize all foul places without substituting another odor.

Used in Y. M. C. A.'s to prevent Athlete's foot.

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WANTED—To communicate with mill needing band instructor. Teach any band instrument. Could work in mill or office. Now teaching in high school. Desire change. Address 410 Mabry St., Selma, Ala.



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tober 31st approximated 34,969,000 bales, compared with 35,193,000 a year ago and 34,693,000 bales at the end of October, 1932. World production for this season was estimated at 25,103,000 bales, compared with actual production last season of 23,637,000 bales and output of 26,535,000 bales two years ago.

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COTTON GOODS

New York.—There was little activity in the cotton goods markets during the week. Buyers were still very slow to cover on any goods they might need before the inventory period and mills were not willing to shade prices in order to sell for future delivery. Announcement that the mills under the cotton textile code must curtail 25 per cent in December has not yet had any marked effect on the market. It is expected that many of them will close for a week's holiday for Christmas, while others will curtail sufficiently each week to reduce their operations by the required amount. In many instances, mills have contracts calling for their full production for the month and will be inconvenienced by the new ruling.

The most encouraging factor in the situation is the way prices have held steady in recent weeks, price changes being held in a narrow range. It is believed that much buying is being withheld at this time due to the fact that retail inventories have not been reduced as much as was expected. There is a very general feeling in the trade that prices will not decline. The tax placed on jute and paper is expected to allow the mills to regain some business lost to these two fibres.

Sales of print cloths, carded broadcloths and other coarse yarn gray goods were limited to small quantities. Prices held well and quantities offered at concessions were too small to affect the situation.

There was no improvement in the demand for fine goods although conditions in this division of the trade were said to be gradually improving. In the all cotton styles, the best demand continued for fancy constructions.

The trade here generally believes that the holiday business will be considerably better than it was last year. So far sales of package goods are being deferred until actual holiday buying is under way. There are indications that good buying should develop for special January cotton goods sales.

Print cloths, 28-in., 64x60s	45½
Print cloths, 27-in., 64x60s	41½
Gray goods, 38½-in., 64x60s	65½
Gray goods, 39-in., 80x80s	9
Gray goods, 39-in., 68x72s	75½
Brown sheetings, 3-yard	9¼
Brown sheetings, 4-yard, 56x60s	8¼
Brown sheetings, standard	9½
Tickings, 8-ounce	20
Denims	15½
Dress gingham	15½
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The Traveler Man says: "The bone of contention may be your little finger or it may be a little traveler." How often do such tiny things "gum" up the works! But the truth of it is, though they may be little, travelers are mighty important in a spinning mill. Victor Ring Travelers have made themselves so important that an entire plant is devoted to their production. You can get quick deliveries and free samples of Victor Travelers at any time. Try our new Circle-D Travelers.

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J. McD. McLeod 39 Church St., Bishopville, S. C.

J. P. STEVENS & CO., Inc.

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YARN MARKET

Philadelphia, Pa.—There was little change in the yarn market last week, the break caused by the holiday serving to further slow up business. It is not expected that there will be any marked improvement before the end of the year. Prospects for January appear to be brighter and it is hoped here that some of the buying that was postponed in the fall will develop after the turn of the year.

Carded and combed yarns for the knitting trade are just a trifle easier, a change which is said locally to have decided more spinners to close their plants. Numbers were rated doing well while operating three days a week. Others have been lucky to have warrant for two days production, and instances are cited of spinners operating their plants one day a week.

Now, with yarns decidedly out of active demand, it is said to be the firm intention to close down many plants entirely for a few weeks, or until specifications against held-up shipments come through in better shape and surplus stocks are measurably moved to manufacturers.

Yarns are apparently at the point of stabilizing on a depression-proof basis. Meanwhile, however, cotton and manufacturing costs are comparatively negligible as related to yarn rates in current draggy market, where the buyer is in the saddle and yet showing no disposition to cover much ahead. Contracted yarns are said to be moving less freely. The slowing up of shipments tends to accumulate stocks in first hands and in order to offset this undesirable situation some spinners may find it necessary to offer concessions in order to stimulate movement. Effort will be made to prevent any considerable accumulation of unsold yarns, particularly in view of the adoption in the near future of a supplementary code which would ban the carrying of market stocks.

In the combed yarn division prices have come before the trade at much lower levels than were in effect two or three weeks ago.

The demand for mercerized yarns covered only small quantities.

Southern Single Warps		60s	60s
10s	27	Duck Yarns, 3, 4 and 5-Ply	25
12s	27 1/4	8s	25
14s	28	10s	25
16s	28 1/4	12s	25
20s	31	16s	30
26s	34	20s	31
30s	36		32
Southern Two-Ply Chain Warps		Carpet Yarns	
8s	28	8s	38
10s	28 1/4	10s	39
12s	29	12s	39
16s	30	16s	31
20s	32	20s	32
24s	34	Carpet Yarns	
26s	35	Tinged carpets, 8s, 3	25
30s	37 1/4	and 4-ply	25
30s ex.	40	Colored strips, 8s, 3	27 1/4
Southern Single Skeins		and 4-ply	27 1/4
8s	27	White carpets, 8s, 3	27
10s	27	and 4-ply	27
12s	27 1/4	Part Waste Insulating Yarns	
14s	28	8s, 1-ply	23
16s	28 1/4	8s, 2, 3 and 4-ply	23
20s	31	10s, 2, 3 and 4-ply	24
26s	34	12s, 2-ply	25 1/4
30s	36	16s, 2-ply	28 1/4
36s	42	20s, 2-ply	30
40s	45	30s, 2-ply	36 1/4
Southern Two-Ply Skeins		36s, 2-ply	42 1/4
8s	27	Southern Frac Cones	
10s	28	8s	26 1/4
12s	28 1/4	10s	27
14s	29	12s	27 1/4
16s	30	14s	28
20s	32	16s	28 1/4
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Akron Baiting Co., Akron, O. Sou. Rep.: L. L. Haskins, Greenville, S. C.; L. F. Moore, Memphis, Tenn.

American Cyanamid & Chemical Corp., 535 Fifth Ave., New York City. Sou. Office and Warehouse: 301 E. 7th St., Charlotte, N. C.; Paul Haddock, Sou. Mgr.

American Enka Corp., 271 Church St., New York City. Sou. Rep.: R. J. Mebane, Asheville, N. C.

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Barber-Colman Co., Rockford, Ill. Sou. Office: 31 W. McBee Ave., Greenville, S. C.; J. H. Spencer, Mgr.

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Saco-Lowell Shops, 147 Milk St., Boston, Mass. Sou. Office and Repair Depot: Charlotte, N. C. Walter W. Gayle, Sou. Agent; Branch Sou. Offices: Atlanta, Ga. John L. Graves, Mgr.; Greenville, S. C.

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Sipp-Eastwood Corp., Paterson, N. J. Sou. Rep.: Carolina Specialty Co., Charlotte, N. C.

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Sonoco Products Co., Hartsville, S. C. Southern Spindle & Flyer Co., Charlotte, N. C.

Stanley Works, The, New Britain, Conn. Sou. Office and Warehouse: 552 Murphy Ave., S. W., Atlanta, Ga.; H. C. Jones, Mgr.; Sou. Reps.: Horace E. Black, P. O. Box 424, Charlotte, N. C.

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa. Sou. Office and Plant: 621 E. McBee Ave., Greenville, S. C.; H. E. Littlejohn, Mgr. Sou. Reps.: W. O. Jones and C. W. Cain, Greenville Office.

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U S Bobbin & Shuttle Co., Manchester, N. H. Sou. Plants: Monticello, Ga. (Jordan Div.); Greenville, S. C.; Johnson City, Tenn. Sou. Reps.: L. K. Jordan, Sales Mgr., Monticello, Ga.

Universal Winding Co., Providence, R. I. Sou. Offices: Charlotte, N. C.; Atlanta, Ga.

U. S. Ring Traveler Co., 159 Aborn St., Providence, R. I. Sou. Reps.: William W. Vaughan, P. O. Box 792, Greenville, S. C.; Oliver B. Land, P. O. Box 163, Athens, Ga.

Veeder-Root Co., Inc., Hartford, Conn. Sou. Office: Room 1401 Woodside Bldg., Greenville, S. C.; Edwin Howard, Sou. Sales Mgr.

Victor Ring Traveler Co., Providence, R. I., with southern office and stock room at 137 S. Marietta St., Gastonia, N. C., also stock room at 520 Angier Ave., N. E., Atlanta, Ga., with B. F. Barnes, Jr., Mgr. Southern Salesmen: N. H. Thomas, Gastonia, N. C.; J. McD. McLeod, 30 Church St., Bishopville, S. C.; B. F. Barnes, Jr., Atlanta, Ga.

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Whitin Machine Works, Whitinsville, Mass. Sou. Offices: Whitin Bldg., Charlotte, N. C.; W. H. Porcher and R. I. Dalton, Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps.: M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

Whitinsville Spinning Ring Co., Whitinsville, Mass. Sou. Rep.: Webb Durham, 2029 East Fifth St., Charlotte, N. C.

Whitney Mfg. Co., Hartford, Conn. Sou. Rep.: Precision Gear & Machine Co., Charlotte, N. C.

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Lewis Talks To State College Students

One of the most interesting and instructive addresses which North Carolina State College Textile students have heard in several years was delivered to the Tompkins Textile Society last week by K. P. Lewis, president of the Erwin Cotton Mills Company of Durham, an organization which employs a number of State College Textile graduates, among whom are a manufacturing engineer, an office manager, five superintendents, a textile chemist, and younger men who act as assistants in various departments.

After congratulating the State College Textile School on the excellent work which it is doing in training young men for the textile industry, Mr. Lewis discussed at length the AAA, or Agricultural Adjustment Act, and the NRA, or National Recovery Act. He enumerated many advantages, and some disadvantages, accruing to the textile industry from the efforts of the Government to stab-

ilize business, and stated that the minimum wage provided in the textile code had done a great deal to eliminate unfair competition and over production in the industry.

A. F. of L. Suffers Serious Setbacks

Washington, D. C.—Setbacks suffered by the American Federation of Labor since NRA have cut into the optimism of its leaders and further losses may cause a change in tactics.

The worst defeat so far for an American Federation of Labor union was hidden in outward signs of victory. When workers of most Southwestern Pennsylvania captive coal mines voted overwhelmingly last week for the United Mine Workers to represent them in negotiations with employers, the miners of the United States Steel subsidiary, H. C. Frick Coke Company, voted 3,694 to 3,600 against the U. M. W., which lost nine out of fourteen mines.

It was the Frick Company that had been focal point of the bitter summer coal strike for union recognition. So confident were U. M. W. leaders of victory that they left electioneering to local officials. John L. Lewis and Philip Murray, president and vice-president of the union, did not go into the Frick territory for a single speech. The defeat caught them unprepared and silent.

A series of industrial elections under National Labor Board supervision took thousands of workers from the A. F. of L.'s Boot and Shoe Workers' Union. They voted for newer organizations in plants at Brockton, Mass., other New England points, and in Brooklyn and Baltimore.

The Amalgamated Association of Iron and Steel Workers, another A. F. of L. unit, lost an election last week at the Ingersoll Steel and Disc Company, Indianapolis. While most silk and hosiery elections—involving nearly 20,000 workers—have resulted in union triumphs, a few plants near Philadelphia, Indianapolis and Reading, Pa., voted for company unions instead.

An important test will occur next month at Weirton, W. Va. The Amalgamated Iron and Steel Workers weeks ago claimed an overwhelming membership in the plant of the Weirton Steel Company, called a strike and held up work until the labor board arranged for the coming election. In the intervening time the company has been active and observers now regard the outcome as far from certain.



VISITING THE MILLS

Edited by Mrs. Ethel Thomas Dabbs

SPRAY, N. C.

CAROLINA COTTON AND WOOLEN MILLS

There have been a number of changes and promotions here, and our good friend, Mr. Thomas, of the Personnel Department, promised to send us a correct list and pictures of some of the good looking officials. However, up to date, we haven't received them. If they come later, we'll be glad to use them. (Pictures have come, but too late for this issue.)

THE OLD R. I. MILL STARTING UP

We were glad to see the old Rhode Island Mill starting up under the name, "Rhode Island Suiting Mill." Extra fine woolen suiting and mixed wool suiting are made here.

If we make no mistake, J. W. Price is plant superintendent; W. P. Barton, carder and spinner; T. M. Robbins, J. R. Berkley and G. E. Odell are other key men; W. F. Hundley is a man who is always ready to dye for his company. He has been here all through the past 21 years—"dyeing to make a living." The dye plant kept going steadily, though the mill has been standing idle for some years.

AMERICAN WAREHOUSE

J. W. Krantz, superintendent; Z. V. Nance, overseer napping; R. D. Shumate, sewing; F. C. Cowan, stock department; M. W. Hayden, machinist; J. W. Edwards, assistant machinist; J. V. Orell, overseer packing; N. A. McBride, storage and shipping.

Other key men: Russell Krantz, R. N. Brown, R. T. Joyce, C. L. Brown and E. E. Boyd.

The prettiest blankets imaginable are made here—and so many of them it is amazing. Marshall Field & Co., of Chicago, truly must be trying to wrap the whole world up.

NANTUCKET MILL

Oh, Boy! you should see the "head-lining"—cotton suiting for overhead lining of automobiles—that is made here. It does seem that they have reached the top in perfect design and weave. Sheeting of different widths is also made here.

G. M. Lamar is superintendent; W. H. Richardson, day carder and spinner; L. H. Carter, night carder and spinner; J. S. Bondurant, day overseer weaving; O. F. Ferguson, night weaver; M. T. Gilley, yard overseer.

LILLY MILL

This is no doubt the pride of them all. Especially are the ladies interested in this plant, for the lovely silks, corded, krindled, checks, stripes, crepes, etc., are absolutely irresistible.

E. D. Hoehl is superintendent, a very likable young man, and a great booster for the Council and community welfare. C. H. Hall, R. E. Brown, Dewey Ferguson and James Grogan are other live wires at Lilly.

SPRAY COTTON MILL

We find a nice, congenial group here, with smiling J. G. Ferrell manager—a man always ready to oblige; Chas. H. Boyd is superintendent; J. W. Austin, overseer carding; D. E. Campbell, overseer spinning; Dan Aheron, master mechanic; J. T. Campbell, assistant mechanic.

This mill was curtailing a bit, but we hope everything turns out O. K.

An addition was being built to care for eight new twistlers.

This is not one of the Marshall Field group of mills.

FIELDALE, VA.

CAROLINA COTTON AND WOOLEN MILLS, FIELDALE PLANT—HERE WE FIND A LOVELY MILL AND VILLAGE AND FINE, FRIENDLY PEOPLE.

There could hardly be found a more ideal place for industrial development than this spot, where rolling hills insure good drainage and sanitation and where the land is extremely fertile.

At a railroad crossing and bridge as one enters Fieldale, we saw the most perfect and competent stop-signs imaginable—something we had never seen anywhere else. These lights are on a long arm, and not only turn red, but they wave frantically when a train is coming. It is impossible for anyone to pass them unnoticed, and they never fail to warn travelers when danger is near. What a pity that this kind of warning signal is not more generally used. It must be something that Virginia has pulled over on us.

Roads and streets have been greatly improved in and around Fieldale, along with other signs of progress. It really is a delightful place, and everybody is so full of vim, vigor and vitality. No drones.

IN THE MILL

Silk drapery, woven on Jacquard looms, is as pretty as heart could wish; there are other looms on towels and more towels, of unusual beauty and good quality.

Mason P. Thomas, of the Whitin Machine Company, was on hand looking after the changing of 80 spinning frames to long draft.

Superintendent J. H. Ripple and his assistant, J. H. Lindsay, are two thorough-going gentlemen whom it is always a pleasure to call on. No drag-along methods here. Pep and more pep—push, pluck and energy, efficiency and courtesy are among the virtues so abundantly possessed by these gentlemen.

Mr. Lindsay is county chairman of the Red Cross committee, and is doing a great work for this worthy organization. A drive had just been made for members and four departments in the mill went over the top—one hun-

dred per cent. The mill company and operatives together contributed \$353.00 for Red Cross in this one-day drive.

NIGHT SCHOOL

Sponsored by the Carolina Cotton and Woolen Mills Company, in co-operation with the vocational education department of the State of Virginia, more than 75 men are attending night school two nights each week.

R. D. Hundley is teaching Practical Loom Fixing to a large class.

Prof. Looney, principal of Fieldale High School, is teaching arithmetic.

Superintendent J. H. Ripple is teaching Cloth Analysis Calculations and Designing.

J. H. Lindsay, assistant superintendent, is teaching Carding and Spinning, Gear Calculations, Twist and Draft.

The classes are held in the High School Building Tuesday and Friday nights from 7 to 9 o'clock.

Just watch these men climb the ladder of success. They are fitting themselves for future developments, and will be ready for promotions when chances come. If they were in a big city they "wouldn't have time" for self-improvement. Some "don't have time to read."

OVERSEERS AND OTHER PROGRESSIVES WHO ARE

READING THE TEXTILE BULLETIN

J. H. Going, overseer carding and spinning; J. J. Barrow and Guy Going, second hands carding; Will Nichols, second hand in spinning; Eugene Gordon, M. E. Wolfe and H. F. Aldridge, card grinders; C. J. Kasey, second hand in carding; R. G. Harrell, D. H. Hensley, Dewey Gordon, Wendel Walker and W. J. Burnett, section men, carding and spinning.

J. E. Perry is overseer weaving; T. M. Hundley and A. F. Lyons, second hands; M. M. Macey, Geo. W. Mahaffey, J. F. Hartis, Robert D. Roberson, R. E. Ensley, L. A. Coley, H. C. Huchens, C. S. Shaw, J. O. Morrison, loom fixers; L. L. Warrick, night overseer weaving.

L. E. Turner, another loom fixer, invited us to dinner almost as soon as we entered the mill, and we accepted—keeping a promise made on a former visit. Mr. Turner and wife were formerly of Georgia, but have been here a number of years. Their little six-year-old daughter, Edna Earle, had on a cook apron and was almost as much interested in the dinner as her charming mother. Uncle Hamp and Aunt Becky enjoyed being in their home.

J. L. Keen, slasher foreman, is another Georgia man and is well liked.

In the bleachery and sewing room, J. H. Pickup is overseer bleaching; E. Sherrill, in sewing; W. E. Austin, fixer; J. W. Norris is electrician.

THE KNITTING MILL

This pretty and busy little plant was one we had never before seen. But my, how we enjoyed meeting the nice people there.

A. Plangger, superintendent, is a genial gentleman—truly courteous and obliging. He and others read our paper.

David Dobbs, night overseer; C. H. Smythe and C. D. Looney were among the key men we met at the knitting mill. Next time we visit Fieldale we hope to accept Mr. Plangger's invitation to stay longer and go over this interesting plant.

GOLDVILLE, S. C.

Misses Lavinia Armstrong and Margie New, Mr. Ernest Pennell and Mrs. Ruby Armstrong, all of Abbeville, S. C., spent the week-end with Mr. and Mrs. Hezzie Dudley.

Mrs. Ruth Feltman is spending the week with her sister in Laurens, S. C.

Mrs. Dessie Bryant visited friends in Newberry, S. C., Sunday.

Mr. Irvin Riggs spent the week-end with his parents in Columbia, S. C.

Mrs. R. L. Martin and children are spending a few weeks in Marion, S. C.

Friends of Mr. Willis Phillips will be sorry to know that he is confined to his home by injuries received when he fell from a motorcycle Saturday evening.

Mr. and Mrs. R. L. Landford and daughter, Mary, and Mrs. E. L. Thomas attended the celebration of the 26th wedding anniversary of Mr. and Mrs. Clayton Roberts at Narnee, S. C., Sunday.

Little Miss Jessie Mae Fox has been quite ill with scarlet fever for the past week. Friends will be glad to know that she is improving.

The Mother-Daughter Banquet, an annual event at which the mothers of the Joanna Girls' Club are honor guests, took place Saturday evening, November 25th. A delightful turkey dinner, with "frills to match," was served to ninety happy folk.

Miss Louise Putman, president of the Girls' Club, presided and expressed the club's pleasure at having the mothers and friends present. The invocation was offered by Miss Eugenia Brazil.

A toast "To the Mothers" was delivered by Miss Sarah Clark. Mrs. J. E. Hamm responded with a toast to the daughters. Miss Elizabeth Ross gave a toast to the Joanna officials and friends.

An added feature of the evening was humorous readings by Misses Millie Cole, Naomi Hall and Callie Putman.

At a recent meeting of the Joanna Mothers' Club officers for the coming year were elected as follows: President, Mrs. J. M. Ross; vice-president, Mrs. E. J. Willingham; secretary, Mrs. Troy Ellis; treasurer, Mrs. R. L. Landford.

Mrs. Bruce Galloway entertained with a lovely tea on Friday afternoon in honor of Mrs. J. B. Hart, a recent bride. Mrs. Wm. A. Moorhead and Mrs. A. D. Barron assisted the hostess. A large number of visitors called during the afternoon.

Of cordial interest to many friends was the marriage of Miss Virginia Moore and Mr. Marion Boyce, both of Goldville. The ceremony was performed by Rev. Ray Anderson at his home in Laurens, S. C., on Saturday afternoon, November 25th.

Miss Sarah Welchell and Mr. J. C. Olswalt were married on Saturday afternoon, November 25th. Their friends wish them many years of happiness.

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WANTED—Position as superintendent by thoroughly capable and reliable man; twelve years' experience in all phases of cotton cloth manufacturing; textile school graduate. T. A. H., care Textile Bulletin.

REMNANTS, MILL ENDS

Always in the Market for Mill Ends, Job Lots, in Piece Goods, Hosiery, Pants, Gloves or what you may have.

HARRY SUNSHINE

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SALESMAN calling on mills in both Carolinas with paint and roofing would like additional lines. "Lines," care Textile Bulletin.

FOR SALE

25 Reeds, 34 cents per inch, spread on 44½ overall, 3½ inside, 4½ outside. These reeds were used once and re-worked. \$1.00 each. Sample sent on request.

HOWARD BRADSHAW
Columbia, S. C.

WANTED—Position as overseer, assistant superintendent or superintendent of fancy weaving, Dobby and Jacquard work a specialty. Able to take full charge of warping, beaming, drawing-in, weaving and finishing. Can furnish good Southern reference. "H. E." care Textile Bulletin.

WANTED—Position as overseer of weaving. Fifteen years' experience on Jacquards and fancy dobby, silk, rayon and cotton. Can furnish reference. Address L. T. O., care Textile Bulletin.

WANTED—Position as overseer carding, spinning or assistant superintendent. Long experienced in mill work and widely known for ability. Can furnish good references. J. S. F., care Textile Bulletin.

WANTED—Overseer experienced in twisting, winding and ball warping. Write giving full record of experience and references. Mill located in Mississippi. B. W. R., care Textile Bulletin.

Russia and Cotton

If Soviet Russia can succeed in its objective of raising the standards of living among the Russian people, consumption of cotton and cotton goods will rise substantially and a greatly increased market will be provided for the American staple.

That is the conclusion reached from data compiled by the New York Cotton Exchange, which shows that per capita consumption of cotton in

Russia is only about 5.6 pounds, which compares with 25 pounds in the United States. The population of Russia is about 160,000,000, as compared with 125,000,000 in the United States, and if the per capita consumption of the Russians were equal to that in America the country would require about 8,000,000 bales of cotton.

That, of course, is too much to hope for in the near future, but if Russia should increase her per capita cotton requirements by 100 per cent within the next few years, the annual Russian consumption would be about 3,600,000 bales, which would mean that Russia would be in the market for a very much larger amount of cotton than she can possibly produce, even with her efforts to increase her cotton production.

The figures suggest that Russia is going to be an increasingly important market for cotton as the years pass and that it will be to our advantage from an economic standpoint to aid Russia by all sound means to supply her cotton needs in this country.—*Greenville Daily News.*

Cotton Ginnings Lower in Grade

Washington.—The grade of cotton ginned prior to November 1st was decidedly lower, but longer in staple, than that ginned to the corresponding date last year, the Bureau of Agricultural Economics announced.

As has been shown by the weekly reports of the bureau, the grade has steadily declined throughout the season.

The Bureau of the Census reported 10,359,330 bales ginned to November 1st. All of this was American upland with the exception of 2,209 bales of American-Egyptian.

Of the American upland cotton ginned to November 1st, 11 per cent was extra-white as compared with 3 per cent last year. The proportion of white strict middling and above decreased from 34 per cent last year to 25 per cent this year. There was also a decline in the proportion of white strict low middling and below, but the proportion of spotted was more than three times the proportion shown last year—28 per cent this year compared with 9 per cent last year.

The proportion of cotton 7/8-inch and shorter decreased from 43 per cent last year to 39 per cent this year. There was an increase in the proportion of 15-16 and 1-inch, a slight decrease in the proportion of 1 1-16 to 1 1/8 inches and an increase in 1 3-16 inches and longer.

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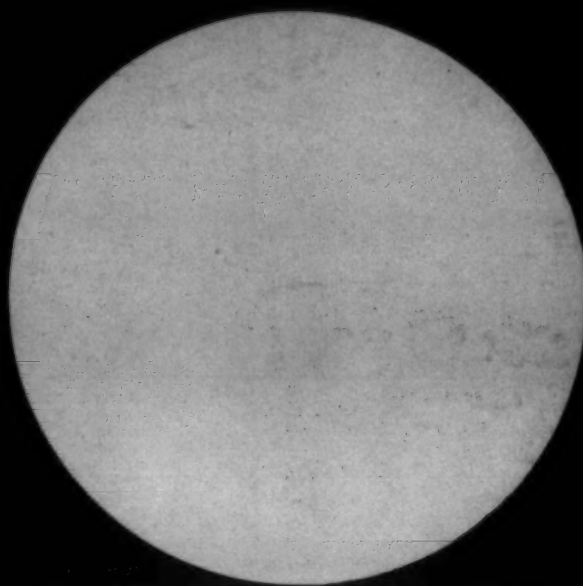
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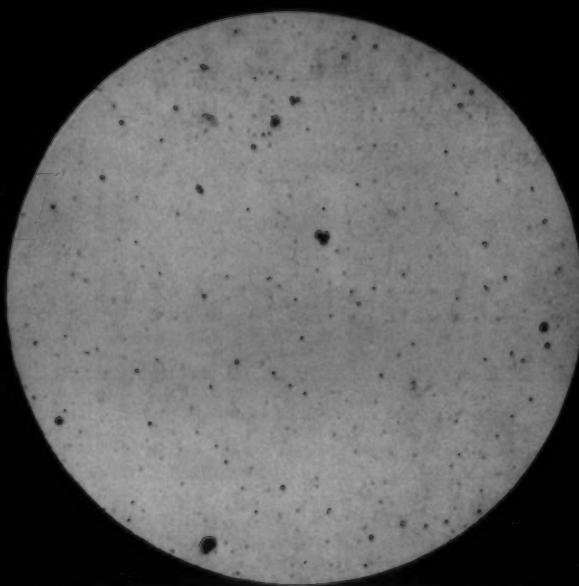
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SUPERTEX:—Unretouched photomicrograph, 70 diameters magnification, of Supertex. Note clean and clear surface free from insoluble particles.



ORDINARY GUM:—Unretouched photomicrograph, 70 diameters magnification, of ordinary gum. Note black spots—insoluble particles which retard dispersion of dyestuff.

Here's why Supertex excels!

● The microscope tells the story—*Supertex and ordinary printing gums are manufactured from the same raw materials—but notice the difference. Our patented special process makes Supertex a *thoroughbred* printing gum—so purified and clarified that it suspends dyestuffs and hydrosulphites in a much more finely divided state.

Many printers are fooled by printing gums because certain important characteristics are not visible to the naked eye. They are readily seen under the microscope, particularly after adding a small amount of tint to intensify the denser particles. Supertex is absolutely clear, showing no solid particles, while the ordinary gum contains numerous insoluble materials which, in printing, filter out on the

surface of the cloth as illustrated above.

All the impurities of the raw materials which are impossible to convert have been removed from Supertex, resulting in an evenly suspended solution. This feature assures better dispersion of the dyestuff or hydrosulphite, better penetration, and better dyeing of the fibres. These two photographs prove that doctor streaks and scratches on rollers are impossible with Supertex.

Use Supertex for rich, true colors, clear and well defined printing, and complete penetration.

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